

I Claim:

1. A prosthesis to replace all or a portion of a natural facet joint on a vertebral body comprising a prosthesis body accommodating fixation to the vertebral body at or near a pedicle and without support by a lamina, and an artificial facet joint structure carried by the prosthesis body adapted and configured to replace all or a portion of a natural facet joint.
2. A prosthesis according to claim 1 wherein the prosthesis body includes a fastening element installed within the vertebral body at or near a pedicle.
3. A prosthesis according to claim 2 wherein the fastening element includes a screw installed within the vertebral body at or near a pedicle.
4. A prosthesis according to claim 2 wherein the fastening element includes a stem installed within the vertebral body at or near a pedicle.
5. A prosthesis according to claim 2 wherein the fastening element including means for resisting rotation after installation in the vertebral body.
6. A prosthesis according to claim 1 wherein the prosthesis body is fixed to the vertebral body by an adhesive or cement.
7. A prosthesis according to claim 1 wherein the prosthesis body includes a bony in-growth material.
8. A prosthesis according to claim 1 wherein the artificial facet joint structure is fixed to the prosthesis body.
9. A prosthesis according to claim 1 wherein the artificial facet joint structure is fixed to the prosthesis body by an adhesive or cement.

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10. A prosthesis according to claim 1
wherein the artificial facet joint structure
is fixed to the prosthesis body by mechanical attachment.

5 11. A prosthesis according to claim 1
wherein the artificial facet joint structure
is removably carried by the prosthesis body.

12. A prosthesis according to claim 1
wherein the artificial facet joint structure
is removably attached to the prosthesis body by
10 frictional engagement.

13. A prosthesis according to claim 1
wherein the artificial facet joint structure
is removably attached to the prosthesis body by a Morse
taper.

15 14. A prosthesis according to claim 1
wherein the artificial facet joint structure
comprises an insert fitted to the prosthesis body.

15. A prosthesis according to claim 1
wherein the artificial facet joint structure
20 comprises an insert fitted by frictional engagement to
the prosthesis body.

16. A prosthesis according to claim 1
wherein the artificial facet joint structure
comprises an insert fitted by a Morse taper to the
25 prosthesis body.

17. A prosthesis according to claim 1
wherein the artificial facet joint structure
comprises a removable insert fitted to the prosthesis
body.

30 18. A prosthesis according to claim 1
wherein the artificial facet joint structure
pivots with respect to the prosthesis body.

19. A prosthesis according to claim 1
wherein the artificial facet joint structure
35 is adapted and configured to articulate with a portion of

a facet joint of an adjoining vertebral body.

20. A prosthesis according to claim 1
wherein the artificial facet joint structure
is made of at least one selected prosthetic material.

5 21. A prosthesis according to claim 1
wherein the selected prosthetic material
includes polyethylene, rubber, tantalum, titanium, chrome
cobalt, surgical steel, bony in-growth material, ceramic,
artificial bone, or a combination thereof.

10 22. A method of replacing, on a vertebral
body, all or a portion of a natural facet joint using the
prosthesis defined in claim 1 to provide improved support
for the spinal column, the method comprising the steps of

(i) removing all or a portion of a natural
15 articular process from the vertebral body, and

(ii) fixing the prosthesis as defined in claim
1 to the vertebral body to replace the removed portion of
the natural articular process with the artificial facet
joint structure.

20 23. A method according to claim 22
further including a step of removing at least
some of the lamina from the vertebral body.

24. A method according to claim 22
further including a step of removing at least
25 part of a pedicle from the vertebral body.